CLAIMS:

1. A method for recording a data stream having a base stream and an enhancement stream on a storage medium comprising the steps of:

receiving the data stream;

storing I-pictures from the base stream in a first buffer;

storing all remaining data in a second buffer;

each time the first buffer becomes full, writing I-pictures stored in the first buffer onto an intra-coded allocation unit on the storage medium;

writing contents of second buffer onto at least one subsequent inter-coded allocation unit.

2. The method according to claim 1, wherein the remaining data from the data streams are I-pictures from the enhancement stream and P-pictures, B-picture and non-video data from both streams.

3. The method according to claim 2, wherein the non-video data comprises audio data, private data and system information.

4. The method according to claim 1, wherein the at least one inter-coded allocation unit contains P-picture, B-picture and non-video data associated with the I-pictures stored in the preceding intra-coded allocation unit.

5. The method according to claim 1, wherein non-video data is stored with the I-pictures.

6. The method according to claim 1, further comprising the steps of:

receiving a trick play request for the stored data;

reading the data in the intra-coded allocation units to create the requested trick play stream of recorded data.

7. The method according to claim 1, wherein data in the intra-coded allocation units are coded with a first code and the data in the inter-coded allocation units are coded with a second code.

8. The method according to claim 1, wherein the first buffer and second buffer are located in different sections of a single buffer.

9. The method according to claim 1, further comprising the steps of:
storing I-pictures from the enhancement stream in the first buffer;
storing all remaining data from the base and enhancement streams in the second buffer.

10. The method according to claim 1, further comprising the steps of:
storing I-pictures from the enhancement stream in a third buffer;
storing all remaining data from the base and enhancement streams in the second buffer.

11. A method for recording a data stream having a base stream and an enhancement stream on a storage medium comprising the steps of:
receiving the data stream;
storing I-pictures from the base stream in a first buffer;
storing P-pictures and non-video data from the base stream in a second buffer;
storing B-pictures from the base stream in a third buffer;
each time the first buffer becomes full, writing I-pictures stored in the first buffer onto an intra-coded allocation unit on the storage medium;
writing the contents of the second buffer into at least one P-picture allocation unit which is after the previously written intra-coded allocation unit;
writing the contents of the third buffer into at least one B-picture allocation unit which is after the at least one P-picture allocation unit.

12. The method according to claim 11, further comprising the steps of:
storing I-pictures from the enhancement stream in the first buffer;
storing P-pictures from the enhancement stream in the second buffer;
storing B-pictures from the enhancement stream in the third buffer.

13. An apparatus for recording a data stream having a base stream and an enhancement stream on a storage medium (300) comprising:

means for receiving (31) the data stream;

a first buffer (402) for storing I-pictures from the base stream;

a second buffer (404) for storing all remaining data from the data stream;

means for writing (6, 8) I-pictures stored in the first buffer onto an intra-coded allocation unit (302) on the storage medium each time the first buffer becomes full;

means for writing (6, 8)contents of second buffer onto at least one subsequent inter-coded allocation unit (304).

14. The apparatus according to claim 13, wherein I-pictures from the enhancement stream are stored in the first buffer and all remaining data from the base and enhancement streams are stored in the second buffer.

15. The apparatus according to claim 13, further comprising:

a third buffer (704) for storing I-pictures from the enhancement stream, wherein all remaining data from the base and enhancement streams are stored in the second buffer.

16. An apparatus for recording a data stream having a base stream and an enhancement stream on a storage medium (300) comprising:

means for receiving (31) the data stream;

a first buffer (700) for storing I-pictures from the base stream;

a second buffer (702) for storing P-pictures and non-video data from the base stream;

a third buffer (704) for storing B-pictures from the base stream;

means for writing (6, 8) I-pictures stored in the first buffer onto an intra-coded allocation unit (302) on the storage medium each time the first buffer becomes full;

means for writing (6, 8) the contents of the second buffer into at least one P-picture allocation unit (310) which is after the previously written intra-coded allocation unit;

means for writing (6, 8) the contents of the third buffer into at least one B-picture allocation unit (312) which is after the at least one P-picture allocation unit.

17. The apparatus according to claim 16, wherein I-pictures from the enhancement stream are stored in the first buffer, P-pictures from the enhancement stream are stored in the second buffer, and B-pictures from the enhancement stream are stored in the third buffer.

18. A method for storing a data stream comprising a base stream and an enhancement stream on a storage medium comprising at least one base allocation unit and at least one enhancement allocation unit, the method comprising the steps of:

receiving the data stream;

storing the base stream in the base allocation unit on the storage medium; and

storing the enhancement stream in the enhancement allocation unit on the storage medium.

19. An apparatus for storing a data stream comprising a base stream and an enhancement stream on a storage medium comprising at least one base allocation unit and at least one enhancement allocation unit, comprising:

a receiver (31) for receiving the data stream;

means (35) for storing the base stream in the base allocation unit on the storage medium; and

means (35) for storing the enhancement stream in the enhancement allocation unit on the storage medium.

20. A storage medium, comprising:

at least one base allocation unit (402) for storing a base stream; and

at least one enhancement allocation unit (404) for storing an enhancement stream.

21. An apparatus for reading a data stream comprising a base stream and an enhancement stream from a storage medium having at least one base allocation unit (402) for storing the base stream and at least one enhancement allocation unit (404) for storing an enhancement stream and wherein the apparatus comprises:

a first reading unit for reading the base stream from the base allocation unit;

a second reading unit for reading the enhancement stream from the enhancement allocation unit (404);

a combining unit for combining the base stream with the enhancement stream in order to provide the data stream; and

a reproduction unit for reproducing the data stream.